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Discontinuous Galerkin schemes for nonstationary convection-diffusion problems

Dautov R., Fedotov E.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© Published under licence by IOP Publishing Ltd.In this paper we analyse an approximation of linear nonstationary convection- diffusion problem based on combination of discontinues Galerkin method for time discretisation in conjunction with hybridized discontinues Galerkin for spatial approximation. Such discrete schemes can be used for the solution of equations degenerating in the leading part and are formulated in term of solution of the problem, its gradient, the diffusional flux, and the restriction of the solution to the boundaries of elements. Conditions responsible for the solvability, stability and accuracy of the schemes are presented.

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